

**REMARKS**

This is in response to the Office Action mailed June 3, 2003. New claims 19-21 have been added. Claims 1 and 6-21 are currently pending and at issue.

New claims 19-21 cover the subject matter recited in current claims 1, 8, and 9. Support for these new claims is found in the specification at, for example, pages 8-9 and 11-12.

No new matter has been added. Reconsideration of the application is respectfully requested.

**Rejections Under 35 U.S.C. § 103(a)**

Claims 1 and 6-18 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Takeuchi et al. (U.S. Patent No. 6,228,218) ("Takeuchi '218") in view of Takeuchi et al. (U.S. Patent No. 6,287,419) ("Takeuchi '419") and Iler (U.S. Patent No. 2,801,938). The Examiner cites Takeuchi '218 as disclosing a water-disintegratable cleaning sheet comprising a fibrous sheet having water-dispersible fibers with a basis weight of 20-100 g/m<sup>2</sup>, a binder, and an electrolyte. The Examiner acknowledges that Takeuchi '218 "is silent about the colloidal silica as a gel compound and the length of the fibers" (June 3, 2003 Office Action: p. 3). Takeuchi '419 is cited by the Examiner as describing a water-decomposable non-woven fabric having fiber lengths of 3-10 mm. The Examiner cites Iler as disclosing a treatment for paper products using silica sol, an aqueous stabilized colloidal solution, which the Examiner alleges corresponds to gel.

The rejection is respectfully traversed, and reconsideration is requested.

Takeuchi '419 is not available as a prior art reference against the present application in view of Applicants' Japanese priority document. A certified literal English translation of the priority document (Japanese Patent Application No. 11-284036, filed October 5, 1999) is submitted herewith.

Takeuchi '419 was first published on September 11, 2001, almost two years after the October 5, 1999 filing date of Applicants' Japanese priority document and almost one year after the present application was filed in the United States on September 29, 2000. Therefore, Takeuchi '419 is not available as a prior art reference against the present application. Furthermore, Takeuchi '419 is not available as a § 102(e) prior art reference because it has the same inventive entity as the present application: namely, Naohito Takeuchi and Takayoshi Konishi. Additionally, Takeuchi '419 is not available as a § 102(e) reference because Takeuchi '419 was filed in the United States on March 17, 2000, more than five months after the filing date of Applicants' Japanese priority document, which Applicants respectfully submit discloses the present invention consistent with 35 U.S.C. § 112. Takeuchi '419 is not available as a prior art reference under 35 U.S.C. §§ 102(a)-(g). Thus, Takeuchi '419 is not available as prior art against the present application.

Claim 1 of the present application recites "water-dispersible fibers having a fiber length of at most 20 mm." Iler discloses no information about fiber length and Takeuchi '218 is similarly "silent." Therefore, because none of the available cited

references teaches or suggests the claimed fiber length, claims 1 and 6-18 are rendered non-obvious. Accordingly, this rejection should be withdrawn

Additionally, claims 1 and 6-18 are non-obvious over Takeuchi '218 and Iler because: (1) Iler teaches away from the formation of a gel; (2) Iler teaches away from the use of the presently claimed electrolyte; and (3) Iler does not disclose a water-decomposable fibrous sheet.

First, Iler discloses that oxolation will produce a polymer that "rapidly sets up to a gel" (col. 2, lines 10-19). This reference points out, however, that formation of a gel should be avoided in favor of a sol (col. 2, lines 19-23). Specifically, Iler states that such undesirable polymerization may be retarded by using alkali ions to stabilize the silica in the form of a sol (col. 2, lines 19-23, 50-51). Iler expressly provides that "the polymerization must not proceed to the formation of a gel" (col. 2, lines 34-35).

Thus, in contrast with the Examiner's allegation, Iler discloses that a gel and a sol are not the same. Rather, a gel is a more solid form than a sol. Specifically, a gel is defined as "A colloidal solution of a liquid in a solid," whereas a sol is defined as "(1) A colloidal solution. (2) The liquid phase of a colloidal solution." GRANT & HACKH'S CHEMICAL DICTIONARY 258, 540 (5th ed. 1987) (attached herewith as Exhibit A). Therefore, Iler teaches away from the formation of a gel, as claimed in the present application.

Second, Iler teaches away from the use of the presently claimed electrolyte. Claim 1 of the present application recites that the fibrous sheet comprises "colloidal

silica gelled with an electrolyte." In contrast, Iler teaches the removal of "substantially all traces of electrolytes except the stabilizing alkali" (col. 3, lines 39-42). The stabilizing alkali ions are used to maintain the silica in the form of a sol. Thus, Iler does not teach that the colloidal silica is "gelled with an electrolyte," as recited in claim 1. On the contrary, the Iler electrolyte prevents a gel from forming.

Third, Iler does not disclose a water-decomposable fibrous sheet. Rather, Iler provides that its treated paper is "especially well adapted for use as paper toweling, blotting paper, and the like" (col. 4, lines 44-45). Iler does not teach or suggest that its paper is decomposable in water. Nor does Iler teach or suggest that the components of its paper could be successfully employed in a water-decomposable product. Therefore, a person of ordinary skill would not have been motivated to use Iler's paper, or its components, to produce the presently claimed water-decomposable fibrous sheet.

Accordingly, Takeuchi '218 and Iler (whether taken in combination with Takeuchi '419 or not) cannot be relied upon to reject claims 1 and 6-18 as obvious. Therefore, this rejection should be withdrawn.

#### **New Claims 19-21**

New claims 19-21 are also not obvious over Takeuchi '218 in view of Takeuchi '419 and Iler. As discussed above, Takeuchi '419 is not available as prior art against the present application. Additionally, claims 19-21 are non-obvious over Takeuchi '218 and Iler because: (1) Iler teaches away from the formation of a gel;

(2) Iler teaches away from the use of the presently claimed electrolyte; and (3) Iler does not disclose a water-decomposable fibrous sheet.

First, Iler discloses that oxolation will produce a polymer that "rapidly sets up to a gel" (col. 2, lines 10-19). This reference points out, however, that formation of a gel should be avoided in favor of a sol (col. 2, lines 19-23). Specifically, Iler states that such undesirable polymerization may be retarded by using alkali ions to stabilize the silica in the form of a sol (col. 2, lines 19-23, 50-51). Iler expressly provides that "the polymerization must not proceed to the formation of a gel" (col. 2, lines 34-35).

Thus, in contrast with the Examiner's allegation, Iler discloses that a gel and a sol are not the same. Rather, a gel is a more solid form than a sol. Specifically, a gel is defined as "A colloidal solution of a liquid in a solid," whereas a sol is defined as "(1) A colloidal solution. (2) The liquid phase of a colloidal solution." GRANT & HACKH'S CHEMICAL DICTIONARY 258, 540 (5th ed. 1987) (attached herewith as Exhibit A). Therefore, Iler teaches away from the formation of a gel, as claimed in the present application.

Second, Iler teaches away from the use of the presently claimed electrolyte. Claim 19 of the present application recites that the fibrous sheet comprises "colloidal silica gel." In contrast, Iler teaches the removal of "substantially all traces of electrolytes except the stabilizing alkali" (col. 3, lines 39-42). The stabilizing alkali ions are used to maintain the silica in the form of a sol. Thus, Iler does not

teach that the colloidal silica is a gel, as recited in claim 19. On the contrary, the Iler electrolyte prevents a gel from forming.

Third, Iler does not disclose a water-decomposable fibrous sheet. Rather, Iler provides that its treated paper is "especially well adapted for use as paper toweling, blotting paper, and the like" (col. 4, lines 44-45). Iler does not teach or suggest that its paper is decomposable in water. Nor does Iler teach or suggest that the components of its paper could be successfully employed in a water-decomposable product. Therefore, a person of ordinary skill would not have been motivated to use Iler's paper, or its components, to produce the presently claimed water-decomposable fibrous sheet.

### Conclusion

In view of the above amendments and remarks, it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue.

If there are any other issues remaining, which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

Respectfully submitted,

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